Year 5
Week 9
Lesson 1

## Challenge 1

Have a go at making these word problems as a fraction. If you can simplify, I would like you to do so.

1. There are 6 bunches of grapes shared between 3 people = 6/3 = 2
2. There are 12 toy cars shared between 6 children. = 12/6 = 2
3. 3 people share 12 books. = 12/3 = 4
4. 2 people are given 8 toffees between them. 8/2 = 4
5. There are 6 burgers shared between 2 people. 6/2 = 3
6. There are 10 bags of popcorn between 5 people. 10/5 = 2

## Challenge 2

Have a go at making these word problems as a fraction. If you can simplify, I would like you to do so.
**Warning – two of these CANNOT be simplified, but which two?**

1. 16 teachers share 12 boxes of glue. = 12/16 = 3/4
2. 9 marbles are shared between 18 bags = 9/18 = 1/2
3. Ten players share five balls. = 5/10 = 1/2
4. 12 artists share 8 tins of paint. 8/12 = 3/4
5. Seven boxes of crayons are shared between nine people. 7/9
6. 4 bottles of Pepsi are shared between 10 people. 4/10 = 2/5
7. Eleven toys are shared between thirteen children. 11/13
8. 10 pilots share 8 maps. = 8/10 = 4/5

## Challenge 3

Sixteen bars of chocolate are shared between thirty-two friends.

Which is the simplified fraction? Explain and justify fully.

8/16 1/2 4/8

The answer is ½.

16 goes in to both 16 and 32 to make ½.

Year 5
Week 9
Lesson 2 – coverting to mixed and improper fractions

## Challenge 1

Write the following fractions as mixed numbers:

1. 17/5 = 3 and 2/5
2. 11/2 = 5 and 1/2
3. 16/3 = 5 and 1/3
4. 13/4 = 3 and 1/4
5. 7/6 = 1 and 1/6
6. 20/7 = 2 and 6/7

## Challenge 2

Write the following mixed numbers as fractions

1. 4 and 3/5 = 23/5
2. 3 and a half = 7/2
3. 2 and 2/3 = 8/3
4. 5 and ¼ = 21/4
5. 2 and 1/6 = 13/6
6. 3 and 2/7 = 23/7

### Challenge 3

Bart is TRYING to do maths again and has converted five improper fractions, one underneath the other, in these columns. Put a tick if he is correct and a cross if he is wrong.

| | | | | |
|---|---|---|---|---|
| 9/5 | 7/3 | 13/2 | 19/6 | 26/8 |
| 1 and 4/5 | 2 and 1/3 | 6 and 1/2 | 3 and 3/6 | 4 and 6/8 |
| Tick | tick | tick | cross | cross |

Year 5
Week 9
Lesson 3 – equivalent fractions

## Challenge 1

Work out these equivalent fractions

| | | |
|---|---|---|
| 1 | = | 9 |
| 3 | | 27 |

| | | |
|---|---|---|
| 3 | = | 12 |
| 4 | | 16 |

| | | |
|---|---|---|
| 3 | = | 9 |
| 5 | | 15 |

| | | |
|---|---|---|
| 4 | = | 28 |
| 7 | | 49 |

| | | |
|---|---|---|
| 1 | = | 5 |
| 9 | | 45 |

| | | |
|---|---|---|
| 6 | = | 54 |
| 7 | | 63 |

| | | |
|---|---|---|
| 5 | = | 45 |
| 8 | | 72 |

Challenge 2

Work out these equivalent fractions

| | | | | |
|---|---|---|---|---|
| 2 | = | 1 | and | 4 |
| 4 | | 2 | | 8 |

| | | | | |
|---|---|---|---|---|
| 3 | = | 9 | and | 18 |
| 5 | | 15 | | 30 |

| | | | | |
|---|---|---|---|---|
| 5 | = | 15 | and | 25 |
| 12 | | 36 | | 60 |

| | | | | |
|---|---|---|---|---|
| 2 | = | 1 | and | 4 |
| 4 | | 2 | | 8 |

| | | | | |
|---|---|---|---|---|
| 3 | = | 12 | and | 27 |
| 7 | | 28 | | 63 |

| | | | | |
|---|---|---|---|---|
| 1 | = | 3 | and | 6 |
| 6 | | 18 | | 36 |

| | | | | |
|---|---|---|---|---|
| 3 | = | 9 | and | 33 |
| 8 | | 24 | | 88 |

Challenge 3
Write five fractions that are equivalent to:

12/20= 6/10 3/5 120/200 60/100 24/40 36/60 48/80

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8/18 = 4/9 80/180 40/90 40/90 20/45 16/36 32/72

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14/30 = 7/15 28/60 56/120 140/300 70/150

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There are many different answers to this questions. I have given some possible answers.

Year 5
Week 9
Lesson 4 – ordering fractions

## Challenge 1

Convert these fractions so that they have the same denominators, then order them in **descending order.**

1. ½ 2/6 2/3 = 3/6 2/6 4/6 = 2/3 ½ 2/6

2. 1/3 3/5 4/15 = 5/15 9/15 4/15 = 3/5 1/3 4/15

3. ¾ 1/3 10/12 = 9/12 4/12 10/12 = 10/12 ¾ 1/3

4. 1/5 7/10 6/20 = 4/20 14/20 6/20 = 7/10 6/20 1/5

5. 4/5 2/3 9/15 = 12/15 10/15 9/15 = 4/5 2/3 9/15

## Challenge 2

Convert these fractions so that they have the same denominators, then order them in **ascending order**. Remember that mixed fractions need to be converted into improper fractions first.

1. 2/3 1/6 $1\ ^{3/12}$ = 15/12 2/12 8/12 = 1/6 2/3 $1^{3/12}$

2. ½ $1\ ^{3/4}$ $1^{5/6}$ = 22/12 21/12 6/12 = ½ $1\ ^{3/4}$ $1^{5/6}$

3. 4/5 $2^{1/5.}$ 7/15 = 33/15 12/15 7/15 = 7/15 4/5 $2^{1/5}$

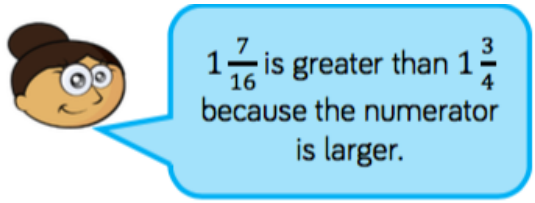
4. 6/20 $1^{4/5.}$ $1^{7/10}$ = 34/20 36/20 6/20 = 6/20 $1^{7/10}$ $1^{4/5}$

5. $1^{5/6}$ $1^{2/3}$ $1\ ^{3/18}$ = 33/18 30/18 21/18 = $1\ ^{3/18}$ $1^{2/3}$ $1^{5/6}$

Challenge 3

Lottie looks at the fractions 1 and 7/16 and the fraction 1 and ¾.

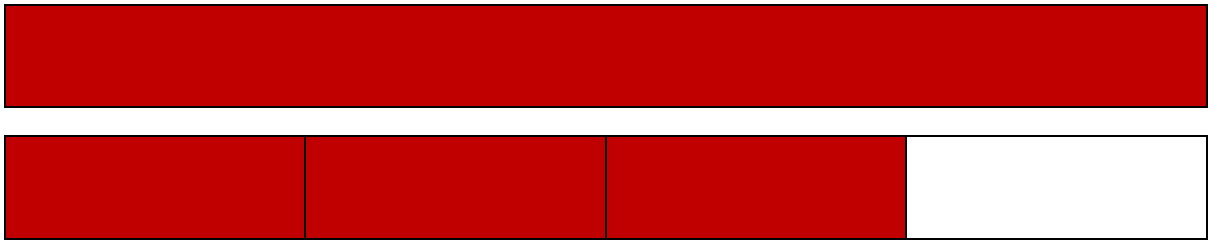
She says,



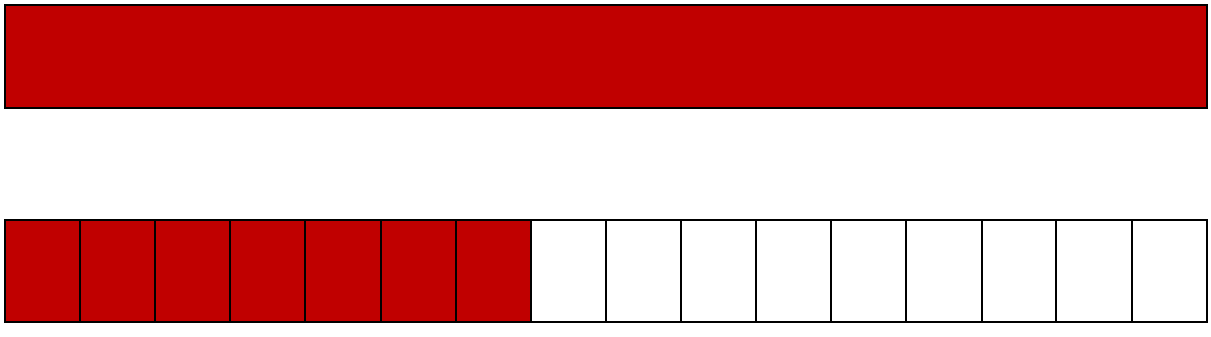

Do you agree?

Explain why using a model or diagram.

1 and 3/4



1 and 7/16



As you can see by the bar model representation, 1 and ¾ has a larger portion on the bar shaded in than 1 and 7/16. This means that 1 and ¾ is larger.